

$$= \frac{1}{\sqrt{\pi}} \left( \frac{1}{\sqrt{\pi}} \int_0^x \frac{1}{t} dt + \frac{1}{\sqrt{\pi}} \int_x^\infty \frac{1}{t} dt \right) = \frac{1}{\sqrt{\pi}} \left( \frac{1}{\sqrt{\pi}} \ln x + \frac{1}{\sqrt{\pi}} \ln \frac{1}{x} \right) = \frac{1}{\sqrt{\pi}} \left( \frac{1}{\sqrt{\pi}} \ln x - \frac{1}{\sqrt{\pi}} \ln x \right) = 0$$

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